User's Guide

Dissolved Oxygen/Temp.

Waterproof Tester

Model: 7031

CE

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Introduction:

Thank you for selection our products microprocessor-based waterproof DO/O2/Temp tester. It is possible to measure a wide range of Dissolved Oxygen and Temperature with a replaceable probe. We recommend that you read and follow the manual carefully.

Features:

※ Large LCD displays DO or O2 and Temperature simultaneously.
※ Waterproof IP-57 standard and rugged design for field use conveniently. It floats on water.
※ Automatic Temperature Compensation, Manual Salinity(MSC) and Altitude(MAC) Compensation, and degree °C/°F switchable.
※ Icon DO O_2 and unit **mg/L, ppm, %, °C, °F** for recognition easy during select function mode.
※ Displays Maximum/Minimum value and data hold.
※ Low battery and consumption indicator. Auto shut off after 10 minutes of non use.
※ Easy to replace DO probe module by user.

Specifications:

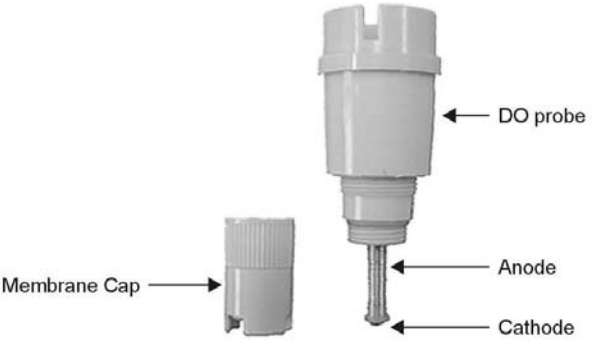
	DO	O_2	Temp.
Range	0~20.00 mg/L 0~20.00 ppm	0~200.0 %	0~90 °C ±0.2+1 digit
Accuracy	±0.2+1 digit	±2% FS	0.1 °C
Resolution	0.01 mg/L	0.10%	
Compensation	ATC: 0~50 °C MSC: 0~50 ppt MAC:0-20000 ft		

Accessories:

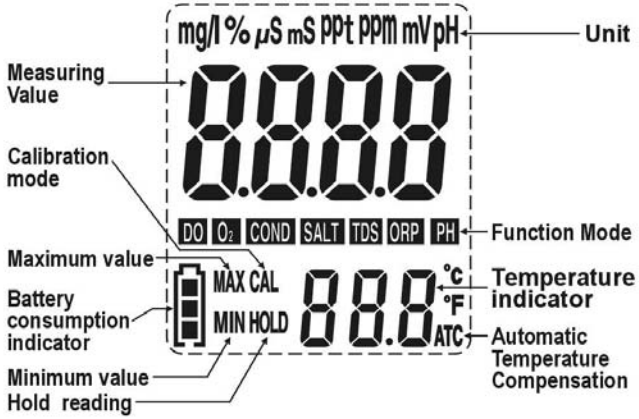
Meter, Membrane Cap x 2, Electrolyte x 50 ml, Plastic burette, Lanyard, Battery (has been installed), Sandpaper, Instruction manual, Carrying case

Device Description:

Probe Description:



Display Description:



Functions of keyboard:

	Power/Calibration 1. Press button to switch power On or Off. 2. Press and hold button to enter calibration mode.
	Function Mode 1. Press to switch DO(mg/l), DO(ppm) and O2(%) 2. Press and hold button to change degree °C or °F.
	Hold/Max & Min 1. Press button to enter Hold mode. 2. Press and hold button to enter Maximum/Minimum mode. In this mode, press button with light to get Maximum and Minimum value. 3. Press and hold button again to exit this mode and return to measurement mode.

Preparation:

1. Remove the protection cap and the probe cap from meter.
2. Remove the membrane cap carefully.
3. Fill the membrane cap with the electrolyte solution up to the bottom of the threads on the inside of the cap. (Please see step 8~11 in "**Membrane Cap Replacement**" below for details)
4. Press CAL button to turn the meter power on.

Calibration:

1. Remove the probe cap. Press CAL to turn on power and press MODE to choose O_2 mode. Wait 10 minutes to 30 minutes for the probe to polarize. The reading should be approx. 101.7% (saturation) after the probe has completely polarized
2. Let the probe in the air. Press and hold CAL for 3 sec. to enter calibration mode. The display will appear **CAL** and flashing 101.7%. When the display stops flashing and indicates "**SA**", then "**End**" while calibration ends, and will return to measurement mode.
3. Optional 'zero oxygen' calibration: (improves measurement accuracy for very low or very high DO measurements). Place the probe into a zero oxygen calibration solution, such as 5% sodium sulfite, wait for stability and press and hold CAL to enter calibration. Stability in a zero solution may take many minutes, depending on the probe history.

Note:

1. If the reading is not 0% while the probe is not connected, calibrate it in the air without probe to make reading becomes 0%.

Measurement:

<DO>

1. Remove the probe cap and turn on the power. Wait 10 minutes to 30 minutes for the probe to polarize. The reading should be approx. 101.7% (saturation) after the probe has completely polarized.
2. Select the desired units of measure by pressing MODE until the proper units are shown in the display.
3. Place the probe in the sample to be measured. Stir the probe in the sample to remove any trapped air bubbles from the membrane surface.
4 .Allow the meter time to settle to the final measurement value.

Note:

1. The larger the difference in temperature between the probe and the solution the longer it will take for the reading to stabilize. Stabilization time can vary from ten (10) seconds to five (5) minutes.
2. After using, cover the probe with the probe cap. The sponge contained in the cap should be moistened (not soaked) with DI (distilled water) or clean tap water.

Functions mode

1. Press H/M button to enter hold function mode. The icon HOLD will appear, and the reading value can be locked shows on display. Return to measurement mode while pressing button again.
2. Press and hold H/M button to enter measuring maximum and minimum function mode until the display appears flash icon **MAX** and **MIN**. The value of maximum and minimum will show at display while pressing button with light. To exit this mode, press and hold H/M button until icon **MAX** and **MIN** disappear, and return to measurement mode.
3. Press and hold MODE button to change Degree °C or °F.

Note:

1. The display could not auto shut off under MAX/MIN mode.
2. Change a new battery when the battery indicator flashing.

Advanced Setting:

1. Press MODE to choose DO mode.
2. Press and hold CAL to enter the menu, press H/M to choose SaLC (Salt Compensation) or ALtC (Altitude Compensation) and then press MODE to confirm.
3. Press H/M (up) and MODE (down) to set Salt Compensation from 0 to 50 ppt, or set Altitude Compensation from 0 to 20K ft.

Membrane Cap Replacement:

1. Do not touch the membrane as skin oils will interfere with the oxygen permeability rate of the membrane. Replace the cap carefully.
2. It is recommended that the probe remain attached to the meter during this replacement process.
3. Unscrew the cap firmly and carefully from the probe.
4. Rinse the old electrolyte solution from the Cathode and Anode.
5. Use the supplied polishing strips to clean, polish, shine, and/or remove scratches from the cathode. Be sure to moisten the cloth before polishing the cathode. Do not over-polish the sensitive gold cathode.
6. Set the new replacement membrane cap on a flat surface. Leave the cap in this position during the replacement process.
7. Fill the membrane cap with the electrolyte solution up to the bottom of the threads on the inside of the cap.
8. Tap the membrane cap to release and prevent air bubble in electrolyte solution.
9. Keeping the cap in a fixed position on a flat surface, carefully insert the probe into the new cap by first dipping and removing the probe several times from the cap. With each dip, push the probe progressively deeper into the bonded cap. Finally, screw the probe slowly onto the cap until fully tightened. The dipping and removal technique minimizes the introduction of air bubbles into the electrolyte solution. Air bubbles in the electrolyte can affect measurements.
10. It is normal that excess electrolyte solution will leak out the cap during this replacement since it minimizes the introduction of air pockets. Clean off the excess electrolyte before use.

Note:

1. We recommend changing the electrolyte as it becomes yellow.
2. Re-calibrate and re-polarize the meter once the membrane cap has been replaced or reinstalled.